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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,069	12/29/2003	Stavros Photios Basseas	8362/85877 (Parent) (BEL-	7945

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EXAMINER	
ENSEY, BRIAN	

ART UNIT	PAPER NUMBER
2646	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,069	BASSEAS, STAVROS PHOTIOS	
	Examiner	Art Unit	
	Brian Ensey	2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/05/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 19, 30, 31, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba et al. U.S. Patent No. 4,759,070 in view of Weinfurtner et al. U.S. Patent No. 6,035,050.

Regarding claim 19, Voroba discloses a fitting system for programming a separate hearing aid comprising: software, executable by the processor for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37); second software executable by the processor responsive to the user feedback to modify the parameters of the hearing aid in accordance with that feedback (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose a programmable processor coupled to circuitry or software for transferring parameters from the processor to a programmable hearing aid to specify the performance thereof. However, programmable hearing aids are well known in the art and

Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

Regarding claim 30, Voroba discloses a fitting system for establishing a set of performance defining parameters for a separate hearing aid comprising: circuitry for presenting pre-stored audio stimuli to the hearing aid for user evaluation of the performance of the hearing aid using the programmed parameters(a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receiving feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37) and modifying the parameters of the hearing aid in accordance with that feedback with a current updated set of parameters (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly

disclose a programmable processor or circuitry for downloading parameters to and programming the hearing aid. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

Regarding claim 31, the combination of Voroba in view of Weinfurtner further discloses circuitry for retrieving the pre-stored sound stimuli to be presented to the user (A microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25).

Regarding claim 34, Voroba discloses a fitting system for programming a separate hearing aid comprising: software for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics

that best suits the user for each condition provided. See col. 3, lines 26-37); circuitry responsive to the user feedback to modify a current set of parameters of the hearing aid (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose software for downloading modified parametersto the hearing aid thereby altering the characteristics thereof'. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading modified parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the characteristics thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

Regarding claim 37, Voroba discloses a method of optimizing a set of parameters for a hearing aid comprising: presenting pre-stored audio stimuli to a hearing aid with a set of parameter set; (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25); b) receiving feedback responsive to the stimuli from a user of the hearing aid; (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See

col. 3, lines 26-37); c) processing the user feedback and altering the existing set of parameters of the hearing aid in response thereto (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose transferring the altered set of parameters to the hearing aid; and repeating the process. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading modified parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the characteristics thereof and repeating the process until an optimal set of parameters is obtained (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs.

2. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner and further in view of Weinfurtner U.S. Patent No. 5,606,620.

Regarding claim 24, Voroba discloses a fitting system for programming a separate hearing aid comprising: circuitry couplable to a hearing aid that is programmable with parameters to specify the performance thereof (a microprocessor based test console controlling parameters presented to hearing aid worn by the user to specify the performance of the hearing aid. See col. 3, lines 38-60); software, executable by the circuitry for presenting pre-stored audio

stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3, lines 13-25)and for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli(a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37). Voroba does not expressly disclose second software executable by the circuitry for implementing fuzzy logic processing for responding to the user feedback to modify at least one parameter of the hearing aid in accordance with that feedback; and additional software for downloading the modified at least one parameter to the hearing aid thereby altering the performance thereof. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for downloading parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs. Further, the use of fuzzy logic in hearing aid fitting systems is well known in the art and Weinfurtner teaches a fuzzy logic adaptation device for programmable hearing aids (See Fig. 1 and col. 2, lines 17-53). Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to utilize the fuzzy logic adaptation device of Weinfurtner in the fitting system of the combination of Voroba in view of Weinfurtner to provide optimum adaptation of the programmable hearing aid according to the individual (See Weinfurtner '620, abstract).

Regarding claim 25, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner further discloses software executable by the processor for establishing an initial set of parameters (See Weinfurtner col. 2, lines 4-37).

3. Claims 20, 22, 23, 27-29, 31-33, 35, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner as applied to claims 19, 24, 30, 34 and 37 above, and further in view of Weinfurtner U.S. Patent No. 5,606,620.

Regarding claims 20, 32, ~~34~~ 35 and 38, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner does not expressly disclose software implements fuzzy logic processing in responding to the user feedback. However, the use of fuzzy logic in hearing aid fitting systems is well known in the art and Weinfurtner teaches a fuzzy logic adaptation device for programmable hearing aids (See Fig. 1 and col. 2, lines 17-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the fuzzy logic adaptation device of Weinfurtner in the fitting system of the combination of Voroba in view of Weinfurtner to provide optimum adaptation of the programmable hearing aid according to the individual (See Weinfurtner '620, abstract).

Regarding claims 22, 23, 27, 33 and 36, the combination of Voroba in view of Weinfurtner discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner discloses software for repetitively presenting the audio stimuli (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user continuously during the testing process. See col. 3, lines 13-25); and in response to user feedback, repetitively modifying the parameters thereby providing an optimized set of parameters (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided until an optimized set of parameters is established. See col. 3, lines 26-37).

Regarding claims 28, 29 and 31, the combination of Voroba in view of Weinfurtner further discloses circuitry comprises a processor for executing the software (See Weinfurtner Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59) and circuitry for retrieving the pre-stored audio stimuli a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See Voroba col. 3, lines 13-25).

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba et al in view of Weinfurtner et al. in further view of Sauer U.S. Patent No. 5,636,285.

Regarding claim 21, Voroba discloses a fitting system for programming a separate hearing aid comprising: software, executable by the processor for presenting pre-stored audio stimuli to the hearing aid (a microprocessor based test console controlling pre-stored presentation of "target stimulus" and "ambience" in a multiphonic sound field around the user. See col. 3,

lines 13-25) and circuitry for receipt of real-time feedback from a user of the hearing aid, the feedback being related to the presented pre-stored audio stimuli (a microprocessor based test console operated by the user to provide real time response to the stimuli provided to determine the operational characteristics that best suits the user for each condition provided. See col. 3, lines 26-37); second software executable by the processor responsive to the user feedback to modify the parameters of the hearing aid in accordance with that feedback (parameters selected by the user are stored during testing as the process is executed to allow the determined parameters to be used for the selection of the final hearing aid setup. See col. 3, line38 to col. 4, line 13). Voroba does not expressly disclose a programmable processor coupled to circuitry or software for transferring parameters from the processor to a programmable hearing aid to specify the performance thereof or third software executable by the processor for establishing an initial set of parameters by neural network processing of selected user data. However, programmable hearing aids are well known in the art and Weinfurtner teaches a programmable hearing aid (10) coupled to circuitry (20) for transferring performance parameters determined during testing by the user to the programmable processor of the hearing aid thereby altering the performance thereof (See Figs. 1-3 and col. 2, line 48 to col. 3, line 35 and col. 4, lines 42- 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the programmable processor of Weinfurtner in the hearing device of Voroba such that "the patient may leave the premises with the same hearing aid that the patient has chosen during the testing process" (See Voroba col. 4, lines 11-13) and with the same assembled device without awaiting assembly of individual components thereby saving time and assembly costs. Further, the use of neural network processing is well known in the art and Sauer teaches the use of a neural network

in a hearing aid for a trainable system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a neural network in the combination of Voroba et al in view of Weinfurtner to train the system and provide a more customized fit with the user.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba in view of Weinfurtner in view of Weinfurtner "620" and further in view of Sauer.

Regarding claim 26, the combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" discloses a fitting system as claimed. The combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" does not expressly disclose omprising a neural network processing of selected user data. However, the use of neural network processing is well known in the art and Sauer teaches the use of a neural network in a hearing aid for a trainable system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a neural network in the combination of Voroba in view of Weinfurtner in view of Weinfurtner "620" to train the system and provide a more customized fit with the user.

Response to Arguments

6. Applicant's arguments with respect to claims 19-28 have been considered but are moot in view of the new ground(s) of rejection.

Further, the examiner respectfully asserts that first software, second software, third software, additional software, etc., as is well known in the art does not necessarily construe that multiple independent software programs need to be provided and that only one program

comprised of individual program steps or subroutines meets the limitation of any number of "software" as claimed in the present application.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

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Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

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BKE
February 27, 2006

SINH TRAN
SUPERVISORY PATENT EXAMINER